## Express Mail No. EV 832910058 US

| IN THE UNITED STATES        | APPLICATION NO: | 10/523,268            |
|-----------------------------|-----------------|-----------------------|
| PATENT AND TRADEMARK OFFICE | FILING DATE:    | 7/7/2005              |
|                             | FIRST NAMED     | John L. Schenk        |
| INFORMATION DISCLOSURE      | ART UNIT:       | 1632                  |
| STATEMENT BY APPLICANT      | EXAMINER NAME:  | Marcia Stephens Noble |
|                             | DOCKET NO:      | XY-LowPressure-USNP   |

## I. US PATENT DOCUMENTS

| EXAMINER<br>INITIAL | DOCUMENT NO.<br>& KIND CODE (if<br>known) | •             | PUBLICATION/ISSUE<br>DATE mm/dd/yyyy | Pages, Columns, Lines Where<br>Relevant Passages Or Relevant<br>Drawings Appear |
|---------------------|---|---------------|--------------------------------------|---|
|                     | 7,094,527                                 | Seidel et al. | 8/22/2006                            |   |
|                     | 2005/00282245                             | Ludwig et al. | 12/22/2005                           |   |
|                     | 2005/0244805 A1                           | Ludwig et al. | 11/3/2005                            |   |
|                     | 20050214733 A1                            | Graham et al. | 9/29/2005                            |   |

## **II. FOREIGN PATENT DOCUMENTS**

| EXAMINER | Foreign Patent Document Country | PATENTEE OR                  | PUB'N DATE mm- | TRANSL | ATION |
|----------|---------------------------------|------------------------------|----------------|--------|-------|
| INITIAL  | Code, Number, Kind Code (if     | APPLICANT                    | dd-yyyy        | Yes    | No    |
|          | known)                          | NAME                         |                |        |       |
|          | WO 93/17322 A1                  | Univ. of Hertfordshire<br>GB | 9/02/1993      |        |       |
|          | UK 1471019                      | United Aircraft Corp.        | 4/21/1977      |        |       |
|          | WO 2006012597 A2                | Monsanto<br>Technology LLC   | 2/2/2006       |        |       |

## **III. OTHER REFERENCES**

| EXAMINER<br>INITIAL | Document   |
|---------------------|--|
|                     | Johnson, L.A., et al, 1996 Gender preselection in mammals. XX Beltsville Symposium in Agricultural Research Technolgy's Role in the Genetic Improvement of Farm Animals. pp. 151-164, Amer. Soc. Anim. Sci. IL, USA.                                     |
|                     | Smorag, Z., et al., Cattle Sex Regulation by Separation of X and Y Spermatozoa – Preliminary Results of Field Experiment in Poland, Reproduction, Fertility and Development 17(2) 306–306; 01/01/2005  |
|                     | Crichton, E., et al. (Abstract) Artificial Insemination of Lactating Holstein Cows with Sexed Sperm, Reproduction, Fertility and Development 18(2) 281 - 281, 12/14/2005   |
|                     | Lindsey, A.C., et al. Hysteroscopic insemination of low numbers of flow sorted fresh and frozen/thawed stallion spermatozoa, Equine Vet J. 2002 Mar;34(2):106-7.   |
|                     | Drobnis, E. Z, Cold shock damage is due to lipid phase transitions in cell membranes : a demonstration using sperm as a model, Journal of experimental zoology (J. exp. zool.) 1993, vol. 265, no4, pp. 432-437 (22 ref.)                                |
|                     | Hagele, W.C., et al., Effect of Separating Bull Semen into X and Y Chromosome-bearing Fractions on the Sex Ratio of Resulting Embryos; Cran J. Comp. Med, 1984: 48:294-298   |
|                     | US Patent Application Number 11/422,735 filed 05/25/2006 entitled Apparatus, Methods and Processes for Sorting Particles and for Providing Sex-Sorted Animal Sperm   |
|                     | Suh, T.K, et al., Pressure during flow sorting of bull sperm affects post-thaw motility characteristics; Theriogenology Vol. 59, No. 1, January 2003 p 516   |
|                     | Rath, D, et al., In Vitro Production of Sexed Embryos for Gender Preselection: High-speed sorting of X-Chromosome-Bearing Sperm to Produce Pigs After Embryo Transfer, J. Anim. Sci. 1999, 77:3346-3352  |
|                     | Auchtung, T.L., et al., Effects of Photoperiod During the Dry Period on Prolactin, Prolactin Receptor, and Milk Production of Dairy Cows; Journal of Dairy Sci. 88: 121-127; American Dairy Sci. Assoc., 2005.   |
|                     | Bailey, Tom and Currin, John Milk Production Evaluation In First Lactation Heifers; 1999 Virginia Cooperation Extension/Dairy Science Publication 404-285  |
|                     | Belloin, J.C., Milk and Dairy products: prduction and processing costs Food and Agriculture Organization of United Nations Rome 1988 FAO; web page where found: www.fao.org/docrep/003/x6931e/X6931E00.htm   |
|                     | Kume, Shin-ichi; Dept of Animal Nutrition National Institute of Animal Industry Tsukuba 305, Japan THE DAIRY INDUSTRY \$IN ASIA B. JAPAN; www.agnet.org/library/article/eb384b.html  |
|                     | Crichton, E.; Huffman, S.; McSweeney, K.; and Schenk, J. 347 Artificial Insemination of Lactating Holstein Cows with sexed sperm: Abstract CSORP Publishing - Reproduction, Fertility and Development www.publish.csiro.au/nid/44/paper/RDv18n2Ab347.htm |
|                     | Lopez, H., Caraviello, D.Z., Satter, L.D., Fricke, P.M. and Wiltbank, M.C.; Relationship Between Level of Milk Production and Multiple Ovulation in Lactating Dairy Cows Journal of Dairy Sci. 88:2783-2793; American Dairy Science Association, 2005.   |
|                     | Managing the Dairy Cow During the Dry Period; Dairy Cattle Production 341-450A; Macdonald Campus of McGill University/Faculty of Agricultural & Environmental Sciences/Department of Animal Science  |

|           | Milk Production and Biosynthesis University of Guelph/Dairy Science and Technology         |
|-----------|--|
|           | www.foodsci.uoguelph.ca/dairyedu/biosyntheses.html   |
|           | MILK PRODUCTION Released 7-18-2006, by the National Agricultural Statistics Service        |
|           | (NASS), Agri. Stats. Board, US Dept of Agri.   |
|           | De Vries, A. Economic Value of Pregnancy in Dairy Cattle Journal of Dairy Sci. 89:3876-    |
|           | 3885/American Dairy Sci. Assoc. 2006   |
|           | Wong, P.Y.D., et al. Potassium Movement During sodium-Induced Motility Initiation in the   |
|           | Rat Caudal Epididymal Spermatozoa; Biology of Reproduction 28, 206-212 (1983)              |
|           |  |
|           | Shirai, H., et al. Regulation of Sperm Motility in Starfish; Development, Growth, and      |
| ļ         | Differentiation; 24, (5), 419-428 (1982)   |
|           | Padilla, A.W. et al. Extender and Centrifugation Effects on the Motility Patterns of Slow- |
|           | Cooled Stallion Spermatozoa; J. Anim. Sci 1991, 69:3308-3313                               |
|           | Old Hard A. A. 199 and Hard Bright Control of the  |
|           | Ohta H., et al., Acquisition and Loss of Potential for Motility Ofspermatozoa of the       |
|           | Japanese Eel Anguilla Japonica, National Research Institute of Aquaculture, Nansei, Mie    |
|           | Morisawa, M. The Process of the Initiation of Sperm Motility; Laboratory of Physiology,    |
|           | Ocean Research Institute, University of Tokyo  |
|           | McGrady, A.V., et al. Cholinergic Effects on Bull and Chimpanzee Sperm Motility; Biology   |
|           | of Reproduction 15, 248-253 (1976)   |
|           | Klinc, P. Dissertation - Improved Fertility of Flowcytometrically Sex Selected Bull        |
|           | Spermatozoa , School of Veterinary Medicine Hanover Germany, 2005                          |
|           | Jones, J.M. et al Acidification of Intracellular pH in Bovine Spermatozoa Suppresses       |
|           | Motility and Extends Viable Life, Journal of Andrology, Vol. 21, No. 5, September/October  |
|           | 616-624  |
|           | Jenkins, A. D., et al. Concentrations of Seven Elements in the Intraluminal Fluids of the  |
|           | Rat Seminiferous Tubules, ReteTestis, and Epididymis; Biology of Reproduction 23, 981-     |
|           | 987 (1980)   |
|           | Darszon, A., et al. Ion Channels in Sperm Physiology, Physiological Reviews, Vol. 27, No.  |
| }         | 2, April 1999  |
|           | Christen, R., et al. Metabolism of Sea Urchin Sperm, the Journal of Biological Chemistry,  |
| 1         | Vol 25, NO. 9, Issue of May 10, pp.  |
|           | Babcock, D. F., et al. Potassium-dependent increases in cytosolic pH stimulate             |
|           | metabolism and motility of mammalian sperm, Proc. Natl. Acad. Sci. USA, Vol. 80, pp.       |
|           | 1327-1331, March 1983  |
|           | Zilli, L., et al. Adenosine Triphosphate Concentration and β-D-Glucuron idase Activity as  |
|           | Indicators of Sea Bass Semen Quality; Biology of Reproduction 70,1679–1684 (2004)          |
|           | Published online before print 11 February 2004.  |
|           | Parallel European Patent Application Number 03767201.1; Supplemental Search Report         |
| }         | dated 10/24/2006   |
| EXAMINER: | DATE CONSIDERED  |

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# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Applicants:

John L. Schenk, George E. Seidel, Tae Kwang Suh

Application Number:

10/523,268

317 Date:

July 7, 2005

Title:

Low Pressure Sperm Cell Separation System

TC/A.U:

1632

Examiner:

Marcia Stephens Noble

Assignee:

XY, Inc.

Attorney Docket:

XY-LowPressure-USNP

Confirmation No.

5591

Customer No.

33549

### **CERTIFICATE OF EXPRESS MAILING**

- I, Cheryl A. Swanson, hereby certify to the truth of the following items:
- 1. I am an employee of Santangelo Law Offices, P.C., 125 South Howes, Third Floor, Fort Collins, Colorado 80521.
- 2. I have this day deposited the attached Information Disclosure Statement Under 37 C.F.R. §1.97(b)(3) no fee due along with Foreign and Non-patent Literature cited with the United States Postal Service as Express Mail, postage prepaid, for mailing to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria VA 22313-1450.

Dated this 25 day of November, 2006.

Cheryl A. Swanson